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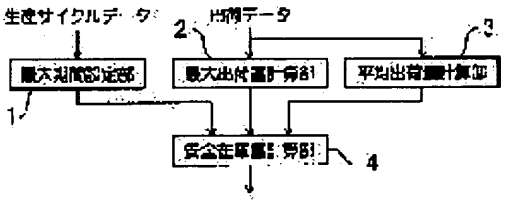
(54) SAFETY STOCK VOLUME CALCULATING DEVICE

(57)Abstract:
PROBLEM TO BE SOLVED: To logically and also properly calculate safety stock volume so as to prevent out-of-stock from occurring even to a product having a large demand fluctuation.
SOLUTION: This device is provided with a maximum period setting part 1 which sets the maximum value of a production lead time period since stock falls below standard inventory volume until products are produced and delivered as a maximum production lead time period, a maximum shipment volume calculating part 2 which traces back to a past fixed time and calculates the total of shipment volume of the maximum production lead time period set by the part 1 and sets the maximum value among the calculated values as period maximum shipment volume, an average shipment volume calculating part 3 which calculates daily average shipment volume in the same past fixed period and a safety stock volume calculating part 4 which calculates safety stock volume by products, based on these maximum production lead time period, period maximum shipment volume and average shipment volume.



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TECHNICAL FIELD

[Field of the Invention] This invention relates to the amount count equipment of safety stock applied to the production-control process which needs to set up the amount of safety stock for corresponding to need fluctuation, when managing an inventory in a stock-production article.

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PRIOR ART

[Description of the Prior Art] Before, there is the count approach indicated by 91 etc. pages of "production system engineering" (KYORITSU SHUPPAN written by Katsuto Hitomi) etc. as an approach of calculating the amount of safety stock when need fluctuation is comparatively small. This count approach calculates the amount of safety stock from the standard deviation of the past shipment, lead time, and the safety factor of the multiplier showing extent of a service rate.
[0003] That is, it asks for standard deviation (alpha) based on the shipment of past every day, and the average shipment within a lead-time period. And the safety factor (K) is set up from a target service rate. For example, it is set to K= 1.65 in fulfilling 95% of need.
[0004] And when a production lead time is set to (L), the amount of safety stock (SS) is (amount SS) of safety stock = Kxalpha xrootL. ... (1)
It is calculated in the formula to say.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, by such conventional count approach, since especially the case where fluctuation of need is small stable is assumed, when need fluctuation is large, the suitable amount of safety stock cannot be calculated in many cases (for example, when shipment has one to about two in the moon etc.). Therefore, in such a case, the amount of safety stock was set up according to the individual by decision of a person in charge. Therefore, there were few set-up amounts of safety stock, and there was a problem that it was difficult and to set up the proper amount of safety stock by whenever [person's in charge who sets up experience]. [too]
[0006] This invention is originated that such a trouble should be solved and the purpose is in offering the amount count equipment of safety stock which can calculate the amount of safety stock logically and proper so that run out may not be caused also to a product with large need fluctuation.

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EFFECT OF THE INVENTION

[Effect of the Invention] The maximum period setting section which sets up the maximum of a production lead time period after the amount count equipment of safety stock of this invention cuts a criteria inventory based on the period which forms production planning until production delivery is carried out as a maximum production lead-time period, The sum total of the shipment in the maximum production lead-time period set up in this maximum period setting section The maximum shipment count section which goes back and calculates at a past fixed period based on the past shipment data, and sets up the maximum in the calculated value as the period maximum shipment, Based on the past shipment data, it is considering as the configuration equipped with the average shipment count section which calculates the average shipment of the day in a fixed period of the same past, and the amount count section of safety stock which calculates the amount of safety stock according to product based on the maximum production lead-time period, the period maximum shipment, and an average shipment. That is, by considering the past track record, when carrying out stock control by the stock production, the proper amount of safety stock can be calculated also about a product with large need fluctuation so that a stockout may not be started.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the amount count equipment of safety stock applied to the production-control process which needs to set up the amount of safety stock for corresponding to need fluctuation, when managing an inventory in a stock-production article.
[0002]
[Description of the Prior Art] Before, there is the count approach indicated by 91 etc. pages of "production system engineering" (KYORITSU SHUPPAN written by Katsuto Hitomi) etc. as an approach of calculating the amount of safety stock when need fluctuation is comparatively small. This count approach calculates the amount of safety stock from the standard deviation of the past shipment, lead time, and the safety factor of the multiplier showing extent of a service rate.
[0003] That is, it asks for standard deviation (alpha) based on the shipment of past every day, and the average shipment within a lead-time period. And the safety factor (K) is set up from a target service rate. For example, it is set to K= 1.65 in fulfilling 95% of need.
[0004] And when a production lead time is set to (L), the amount of safety stock (SS) is (amount SS) of safety stock = Kxalpha xrootL. ... (1)
It is calculated in the formula to say.
[0005]
[Problem(s) to be Solved by the Invention] However, by such conventional count approach, since especially the case where fluctuation of need is small stable is assumed, when need fluctuation is large, the suitable amount of safety stock cannot be calculated in many cases (for example, when shipment has one to about two in the moon etc.). Therefore, in such a case, the amount of safety stock was set up according to the individual by decision of a person in charge. Therefore, there were few set-up amounts of safety stock, and there was a problem that it was difficult and to set up the proper amount of safety stock by whenever [person's in charge who sets up experience]. [too]
[0006] This invention is originated that such a trouble should be solved and the purpose is in offering the amount count equipment of safety stock which can calculate the amount of safety stock logically and proper so that run out may not be caused also to a product with large need fluctuation.
[0007]
[Means for Solving the Problem] In order to solve the above-mentioned technical problem, the amount count equipment of safety stock of this invention It is equipment which calculates the amount of safety stock in the case of managing an inventory in a stock-production article. The maximum period setting section which sets up the maximum of a production lead time period after cutting a criteria inventory until production delivery is carried out as a maximum production lead-time period based on the period which forms production planning, The sum

total of the shipment in the maximum production lead-time period set up in this maximum period setting section

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MEANS

[Means for Solving the Problem] In order to solve the above-mentioned technical problem, the amount count equipment of safety stock of this invention It is equipment which calculates the amount of safety stock in the case of managing an inventory in a stock-production article. The maximum period setting section which sets up the maximum of a production lead time period after cutting a criteria inventory until production delivery is carried out as a maximum production lead-time period based on the period which forms production planning, The sum total of the shipment in the maximum production lead-time period set up in this maximum period setting section The maximum shipment count section which goes back and calculates at a past fixed period based on the past shipment data, and sets up the maximum in the calculated value as the period maximum shipment, The average shipment count section which calculates the average shipment of the day in a fixed period of the same past based on the past shipment data, It considers as the configuration equipped with the amount count section of safety stock which calculates the amount of safety stock according to product based on said maximum production lead-time period, the period maximum shipment, and an average shipment.
[0008] Moreover, in the above-mentioned configuration, said amount count section of safety stock constitutes the amount count equipment of safety stock of this invention so that the amount of safety stock may be calculated by the formula of the (amount = period of safety stock maximum shipment-average shipment x maximum production lead-time period).
[0009] That is, the maximum period setting section sets up the case where it takes the longest time amount, as a maximum production lead-time period in consideration of a period after forming the period (production cycle) and production planning which form production planning until it is actually produced.
[0010] The maximum shipment count section calculates the maximum production lead-time period set up in the maximum period setting section as one period by going back the shipment within the period to a past fixed period based on the past shipment data. That is, the shipment of each period is calculated by making the opening day and end date (spacing of an opening day and an end date serving as the maximum production lead-time period) of the count slide a day every within a past fixed period (for example, for the past one year). And the maximum in the calculated value (the period maximum shipment) is found out.
[0011] The average shipment count section calculates the average shipment per day based on the past shipment data from the total shipment total amount in a past fixed period (for example, for the past one year), and days of operation.
[0012] The amount count section of safety stock calculates the amount of safety stock based on the maximum production lead-time period set up in the maximum period setting section, the period maximum shipment calculated in the maximum shipment count section, and the average shipment calculated in the average shipment count section by the formula of the (amount = period of safety stock maximum shipment-average shipment x maximum production

lead-time period). Even if the maximum need (distribution cost) which went back in the past one year occurs to an average shipment by using such a formula, the amount of safety stock is calculable so that an inventory may not become zero.

[0013]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained with reference to a drawing.

[0014] Drawing 1 is the block diagram showing the system configuration of the amount count equipment of safety stock of this invention.

[0015] If the amount count equipment of safety stock of this invention is divided roughly, it is constituted by the maximum period setting section 1, the maximum shipment count section 2, the average shipment count section 3, and the amount count section 4 of safety stock.

[0016] The maximum period setting section 1 sets up the maximum of a production lead time period after cutting a criteria inventory until production delivery is carried out as a maximum production lead-time period based on the period (production cycle) which forms production planning.

[0017] The maximum shipment count section 2 goes back and calculates the sum total of the shipment in the maximum production lead-time period at a past fixed period based on the past shipment data, and sets up the maximum in the calculated value as the period maximum shipment.

[0018] The average shipment count section 3 calculates the average shipment of the day in a fixed period of the same past based on the past shipment data.

[0019] The amount count section 4 of safety stock calculates the amount of safety stock based on the maximum production lead-time period set up in the maximum period setting section 1, the period maximum shipment calculated in the maximum shipment count section 2, and the average shipment calculated in the average shipment count section 3 by the formula of the amount = period of safety stock maximum shipment-average shipment x maximum production lead-time period.

[0020] Next, the example which actually calculates the amount of safety stock using the amount count equipment of safety stock of the above-mentioned configuration is explained.

[0021] Here, the period (production cycle) which forms production planning is made into 2 times (every Monday and Thursday) per week as a concrete example, and it is produced from the next day of a plan day. Moreover, the case where a past fixed period is made into one year is explained.

[0022] When a production cycle considers as 2 times per week, the relation between a production cycle and a production lead time comes to be shown in drawing 2 .

[0023] That is, production planning will be formed on Thursday whose product which raised the reorder-point piece from the Monday after production planning on Monday which is the 1st plan day by Wednesday which is a day in front of the next 2nd plan day is the 2nd plan day, and the product will be produced from Friday of the next day on one day of Mondays (the 3rd plan day) of the next week. Therefore, the maximum period setting section 1 sets up the case where it will take the longest time amount in consideration of these before a product is actually produced from a reorder-point piece, as a maximum production lead-time period. That is, since the case where a lifting and its product are produced on Monday of the 3rd plan day in a reorder-point piece starts most Monday which is the 1st plan day as for time amount, these seven days are set up as a maximum production lead-time period. In addition, the above-mentioned reorder point is the reference value of the stock control set up for every product, and it becomes what (production planning is formed) is ordered to the timing from which the inventory became below this reference value (reorder point).

[0024] The maximum shipment count section 2 calculates the maximum production lead-time period (for seven days) set up in the maximum period setting section 1 as one period (unit of

account) by having gone back the shipment within the period in the past one year based on the past shipment data. That is, as shown in drawing 3 , the shipment of each period is calculated by making the opening day and end date (spacing of an opening day and an end date having become seven days which are the maximum production lead-time period) of the count slide a day every within the limits of for the past one year. In the example shown in drawing 3 , 290, ..., the period shipments (shipment total amount of the period) from June 9 to June 15 are [the period shipments (shipment total amount of the period) from June 2 which the period shipments (shipment total amount of the period) from June 1 to June 7 were able to shift in 220 and these on the first to June 8] 290. In the example shown in drawing 3 , although illustrated by the half moon in June, such count will be calculated over the past one year in fact. And the greatest thing (350 which is the shipment total amounts from June 8 to June 14 in the example shown in drawing 3) is set up as the period maximum shipment out of the shipment total amount of each period calculated over the past one year.

[0025] The average shipment count section 3 calculates the average shipment per day from the total shipment total amount during the past same year, and days of operation. For example, an average shipment will be set to average shipment =(total shipment total amount)/ (days of operation) =6250 / 250= 25, if a total shipment total amount is made to 6250 and days of operation are made into 250 days. Therefore, an average shipment is set to 25.

[0026] The amount count section 4 of safety stock calculates the amount of safety stock by the bottom type based on the maximum production lead-time period (for seven days) set up in the maximum period setting section 1, the period maximum shipment (350) calculated in the maximum shipment count section 2, and the average shipment (25) calculated in the average shipment count section 3.

[0027] Amount = period of safety stock maximum shipment-average shipment x maximum production lead-time period =350-25x7(Sun.) =175 of safety stock, i.e., the amount, turn into 175.

[0028] Even if the maximum need (distribution cost) which went back in the past one year occurs to an average shipment by using such a formula, the amount of safety stock is calculable so that an inventory may not become zero.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the block diagram showing the system configuration of the amount count equipment of safety stock of this invention.
[Drawing 2] It is the explanatory view showing the relation of the production cycle and production lead time at the time of making a production cycle into 2 times per week.
[Drawing 3] It is the explanatory view having shown the count approach of the maximum production lead-time period.
[Description of Notations]
1 The Maximum Period Setting Section
2 The Maximum Shipment Count Section
3 Average Shipment Count Section
4 The Amount Count Section of Safety Stock

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CLAIMS

[Claim(s)]
[Claim 1] It is equipment which calculates the amount of safety stock in the case of managing an inventory in a stock-production article. The maximum period setting section which sets up the maximum of a production lead time period after cutting a criteria inventory until production delivery is carried out as a maximum production lead-time period based on the period which forms production planning, The sum total of the shipment in the maximum production lead-time period set up in this maximum period setting section The maximum shipment count section which goes back and calculates at a past fixed period based on the past shipment data, and sets up the maximum in the calculated value as the period maximum shipment, The average shipment count section which calculates the average shipment of the day in a fixed period of the same past based on the past shipment data, The amount count equipment of safety stock characterized by having the amount count section of safety stock which calculates the amount of safety stock according to product based on said maximum production lead-time period, the period maximum shipment, and an average shipment.
[Claim 2] Said amount count section of safety stock is a bottom type and the amount count equipment of safety stock according to claim 1 which calculates the amount of safety stock by the amount = period of safety stock maximum shipment-average shipment x maximum production lead-time period.

[Translation done.]

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Ｂ６５Ｇ　1/137		Ｂ６５Ｇ　1/137	Ａ	５Ｂ０４９
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審査請求　未請求　請求項の数２　ＯＬ　（全４頁）

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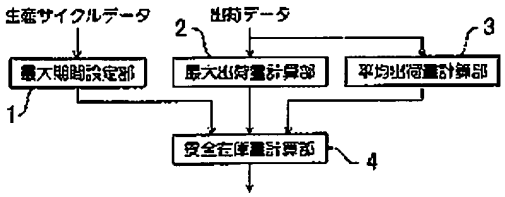
9A001 JJ52 KK54

(54)【発明の名称】　安全在庫量計算装置

(57)【要約】
【課題】　需要変動が大きい製品に対しても、品切れを起こさないように論理的かつ適正に安全在庫量を計算する。
【解決手段】基準在庫量を切ってから生産納入されるまでの生産リードタイム期間の最大値を最大生産リードタイム期間として設定する最大期間設定部１と、この最大期間設定部１で設定された最大生産リードタイム期間中の出荷量の合計を、過去の一定期間にさかのぼって計算し、その計算値の中の最大値を期間最大出荷量として設定する最大出荷量計算部２と、同じ過去の一定期間における一日の平均出荷量を計算する平均出荷量計算部３と、これら最大生産リードタイム期間、期間最大出荷量、及び平均出荷量に基づいて製品別の安全在庫量を計算する安全在庫量計算部４とを備える。



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【特許請求の範囲】

【請求項１】　見込み生産品で在庫量を管理する場合の安全在庫量を計算する装置であって．

生産計画を立てる周期に基づき、基準在庫量を切ってから生産納入されるまでの生産リードタイム期間の最大値を最大生産リードタイム期間として設定する最大期間設定部と、

この最大期間設定部で設定された最大生産リードタイム期間中の出荷量の合計を．過去の出荷データに基づき、過去の一定期間にさかのぼって計算し．その計算値の中の最大値を期間最大出荷量として設定する最大出荷量計算部と、

過去の出荷データに基づき．同じ過去の一定期間における一日の平均出荷量を計算する平均出荷量計算部と、

前記最大生産リードタイム期間、期間最大出荷量．及び平均出荷量に基づいて製品別の安全在庫量を計算する安全在庫量計算部とを備えたことを特徴とする安全在庫量計算装置。

【請求項２】　前記安全在庫量計算部は、下式．

安全在庫量＝期間最大出荷量－平均出荷量×最大生産リードタイム期間

によって安全在庫量を計算する請求項１に記載の安全在庫量計算装置。

【発明の詳細な説明】

【０００１】

【発明の属する技術分野】本発明は．見込み生産品で在庫量を管理する場合に、需要変動に対応するための安全在庫量を設定する必要がある生産管理プロセスに適用される安全在庫量計算装置に関する。

【０００２】

【従来の技術】従来より．需要変動が比較的小さい場合の安全在庫量を計算する方法として．「生産システム工学」（人見勝人著　共立出版）の９１頁等に記載されている計算方法がある。この計算方法は．過去の出荷量の標準偏差と、リードタイムと、サービス率の程度を表す係数の安全係数とから、安全在庫量を計算するようになっている。

【０００３】すなわち、過去の日々の出荷量と．リードタイム期間内の平均出荷量とに基づいて標準偏差（α）を求める。そして、目標とするサービス率から安全係数（Ｋ）を設定する。例えば．９５％の需要を満たす場合には．Ｋ＝１．６５となる。

【０００４】そして、生産リードタイムを（Ｌ）とすると．安全在庫量（ＳＳ）は．

安全在庫量（ＳＳ）＝Ｋ×α×√Ｌ　　・・・（１）

という計算式で計算される。

【０００５】

【発明が解決しようとする課題】しかしながら．このような従来の計算方法では．需要の変動が小さく安定している場合を特に想定しているため、需要変動が大きい場合（例えば、月に１～２程度しか出荷がない場合等）においては、適切な安全在庫量が計算できない場合が多い。従って、このような場合には、担当者の判断によって安全在庫量を個別に設定していた。そのため．設定する担当者の経験度により．設定した安全在庫量が少なかったり、また多すぎたりして、適正な安全在庫量を設定することが難しいといった問題があった。

【０００６】本発明はこのような問題点を解決すべく創案されたものであって、その目的は．需要変動が大きい製品に対しても．品切れを起こさないように論理的かつ適正に安全在庫量を計算することができる安全在庫量計算装置を提供することにある。

【０００７】

【課題を解決するための手段】上記課題を解決するため．本発明の安全在庫量計算装置は．見込み生産品で在庫量を管理する場合の安全在庫量を計算する装置であって．生産計画を立てる周期に基づき．基準在庫量を切ってから生産納入されるまでの生産リードタイム期間の最大値を最大生産リードタイム期間として設定する最大期間設定部と、この最大期間設定部で設定された最大生産リードタイム期間中の出荷量の合計を．過去の出荷データに基づき、過去の一定期間にさかのぼって計算し、その計算値の中の最大値を期間最大出荷量として設定する最大出荷量計算部と、過去の出荷データに基づき．同じ過去の一定期間における一日の平均出荷量を計算する平均出荷量計算部と、前記最大生産リードタイム期間、期間最大出荷量．及び平均出荷量に基づいて製品別の安全在庫量を計算する安全在庫量計算部とを備えた構成としたものである。

【０００８】また、本発明の安全在庫量計算装置は、上記構成において．前記安全在庫量計算部が、（安全在庫量＝期間最大出荷量－平均出荷量×最大生産リードタイム期間）の計算式によって安全在庫量を計算するように構成したものである。

【０００９】つまり、最大期間設定部は、生産計画を立てる周期（生産サイクル）と生産計画を立ててから実際に生産されるまでの期間とを考慮して．最も長い時間がかかる場合を最大生産リードタイム期間として設定する。

【００１０】最大出荷量計算部は、最大期間設定部で設定された最大生産リードタイム期間を一つの期間として．その期間内の出荷量を．過去の出荷データに基づき．過去の一定期間にさかのぼって計算する。つまり、その計算の開始日と終了日（開始日と終了日との間隔は．最大生産リードタイム期間となっている）を．過去の一定期間（例えば、過去１年間）内で一日ずつスライドさせて、それぞれの期間の出荷量を計算する。そして．その計算値の中の最大値（期間最大出荷量）を見つけ出す。

【００１１】平均出荷量計算部は、過去の出荷データに

基づき、過去の一定期間（例えば、過去１年間）におけるトータルの出荷総量と、稼働日数とから、一日あたりの平均出荷量を計算する。

【００１２】安全在庫量計算部は、最大期間設定部で設定された最大生産リードタイム期間と、最大出荷量計算部で計算された期間最大出荷量と、平均出荷量計算部で計算された平均出荷量とに基づき、（安全在庫量＝期間最大出荷量－平均出荷量×最大生産リードタイム期間）の計算式によって安全在庫量を計算する。このような計算式を用いることにより、平均の出荷量に対して、過去１年間にさかのぼった最大の需要（販売量）が発生しても、在庫がゼロにならないように安全在庫量を計算することができる。

【００１３】

【発明の実施の形態】以下、本発明の実施の形態について、図面を参照して説明する。

【００１４】図１は、本発明の安全在庫量計算装置のシステム構成を示すブロック図である。

【００１５】本発明の安全在庫量計算装置は、大別すると、最大期間設定部１、最大出荷量計算部２、平均出荷量計算部３、及び安全在庫量計算部４によって構成されている。

【００１６】最大期間設定部１は、生産計画を立てる周期（生産サイクル）に基づいて、基準在庫量を切ってから生産納入されるまでの生産リードタイム期間の最大値を最大生産リードタイム期間として設定する。

【００１７】最大出荷量計算部２は、最大生産リードタイム期間中の出荷量の合計を、過去の出荷データに基づき、過去の一定期間にさかのぼって計算し、その計算値の中の最大値を期間最大出荷量として設定する。

【００１８】平均出荷量計算部３は、過去の出荷データに基づき、同じ過去の一定期間における一日の平均出荷量を計算する。

【００１９】安全在庫量計算部４は、最大期間設定部１で設定された最大生産リードタイム期間と、最大出荷量計算部２で計算された期間最大出荷量と、平均出荷量計算部３で計算された平均出荷量とに基づき、

安全在庫量＝期間最大出荷量－平均出荷量×最大生産リードタイム期間

の計算式によって安全在庫量を計算する。

【００２０】次に、上記構成の安全在庫量計算装置を用いて実際に安全在庫量を計算する実施例について説明する。

【００２１】ここでは、具体的な例として、生産計画を立てる周期（生産サイクル）を週２回（毎週、月曜日と木曜日）とし、計画日の翌日から生産される。また、過去の一定期間を１年間とした場合について説明する。

【００２２】生産サイクルが週２回とすると、生産サイクルと生産リードタイムとの関係は、図２に示すようになる。

【００２３】つまり、第１計画日である月曜日の生産計画後に、その月曜日から次の第２計画日の前の日である水曜日までに発注点切れを起こした製品は、その第２計画日である木曜日に生産計画が立てられ、その製品は、翌日の金曜日から翌週の月曜日（第３計画日）のいずれかの日に生産されることになる。そのため、最大期間設定部１は、これらを考慮して、発注点切れから実際に製品が生産されるまでに最も長い時間がかかる場合を、最大生産リードタイム期間として設定する。つまり、第１計画日である月曜日に発注点切れを起こし、その製品が第３計画日の月曜日に生産される場合が最も時間がかかるので、この７日間を最大生産リードタイム期間として設定する。なお、上記の発注点とは、製品ごとに設定されている在庫管理の基準値のことであり、在庫がこの基準値（発注点）以下になったタイミングで発注する（生産計画を立てる）ことになる。

【００２４】最大出荷量計算部２は、最大期間設定部１で設定された最大生産リードタイム期間（７日間）を一つの期間（計算単位）として、その期間内の出荷量を、過去の出荷データに基づき、過去１年間にさかのぼって計算する。つまり、図３に示すように、その計算の開始日と終了日（開始日と終了日との間隔は、最大生産リードタイム期間である７日間となっている）を、過去１年間の範囲内で一日ずつスライドさせて、それぞれの期間の出荷量を計算する。図３に示す例では、６月１日から６月７日までの期間出荷量（その期間の出荷総量）が２２０、これから一日ずらせた６月２日から６月８日までの期間出荷量（その期間の出荷総量）が２９０、・・・、６月９日から６月１５日までの期間出荷量（その期間の出荷総量）が２９０、となっている。図３に示す例では、６月の半月分のみ例示しているが、実際には、このような計算を過去１年間にわたって計算することになる。そして、過去１年間にわたって計算した各期間の出荷総量の中から、最大のもの（図３に示す例では、６月８日から６月１４日までの出荷総量である３５０）を、期間最大出荷量として設定する。

【００２５】平均出荷量計算部３は、同じ過去１年間におけるトータルの出荷総量と、稼働日数とから、一日あたりの平均出荷量を計算する。例えば、トータルの出荷総量を６２５０、稼働日数を２５０日とすると、平均出荷量は、

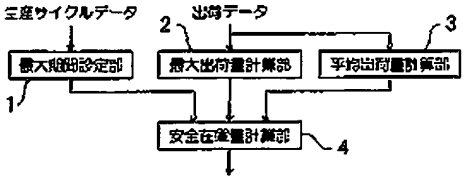
平均出荷量＝（トータルの出荷総量）／（稼働日数）＝６２５０／２５０＝２５

となる。よって、平均出荷量は２５となる。

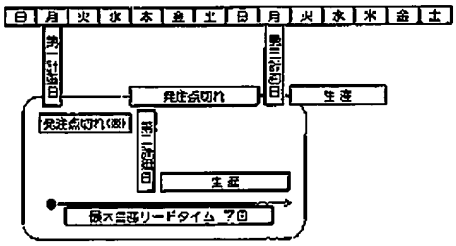
【００２６】安全在庫量計算部４は、最大期間設定部１で設定された最大生産リードタイム期間（７日間）と、最大出荷量計算部２で計算された期間最大出荷量（３５０）と、平均出荷量計算部３で計算された平均出荷量（２５）とに基づき、下式によって安全在庫量を計算する。

【００２７】安全在庫量＝期間最大出荷量－平均出荷量×最大生産リードタイム期間＝３５０－２５×７（日）＝１７５
つまり、安全在庫量は１７５となる。
【００２８】このような計算式を用いることにより、平均の出荷量に対して、過去１年間にさかのぼった最大の需要（販売量）が発生しても、在庫がゼロにならないように安全在庫量を計算することができる。
【００２９】
【発明の効果】本発明の安全在庫量計算装置は、生産計画を立てる周期に基づき、基準在庫量を切ってから生産納入されるまでの生産リードタイム期間の最大値を最大生産リードタイム期間として設定する最大期間設定部と、この最大期間設定部で設定された最大生産リードタイム期間中の出荷量の合計を、過去の出荷データに基づき、過去の一定期間にさかのぼって計算し、その計算値の中の最大値を期間最大出荷量として設定する最大出荷量計算部と、過去の出荷データに基づき、同じ過去の一定期間における一日の平均出荷量を計算する平均出荷量計算部と、最大生産リードタイム期間、期間最大出荷量、及び平均出荷量に基づいて製品別の安全在庫量を計算する安全在庫量計算部とを備えた構成としている。つまり、見込み生産で在庫管理をする場合に、過去の実績を加味することにより、需要変動が大きい製品についても、在庫切れを起こさないように適正な安全在庫量を計算することができる。
【図面の簡単な説明】
【図１】本発明の安全在庫量計算装置のシステム構成を示すブロック図である。
【図２】生産サイクルを週２回とした場合の、生産サイクルと生産リードタイムとの関係を示す説明図である。
【図３】最大生産リードタイム期間の計算方法を示した説明図である。
【符号の説明】
１　最大期間設定部
２　最大出荷量計算部
３　平均出荷量計算部
４　安全在庫量計算部

【図１】



【図２】



【図３】